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NEOTROPICAL TINGITIDÆ† WITH DESCRIPTIONS OF THREE  
NEW GENERA AND THIRTY-TWO NEW SPECIES  
AND VARIETIES (HEMIPTERA).\*

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(PLATE XXXIX.)

Through the kindness of numerous friends and co-workers the writer has received during the past few years many specimens of North and South American *Tingitidæ* for study and determination. The present paper, based largely upon specimens in the Carnegie Museum, deals entirely with neotropical species. Thanks are especially due to Dr. W. J. Holland, the Director of that museum, for granting permission to the writer to study the very fine and extensive collection of South American *Tingitidæ*, principally collected in Brazil by the late Herbert H. Smith and his wife. Records have also been taken from specimens in the United States National Museum, the National Museum in Paris, and my own private collection. The drawings have been made by Messrs. W. P. Osborn and A. R. Janson.

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† NOTE.—The proper form of the family-name to be applied to the Lace-bugs has been the subject of a lengthy and good-natured correspondence between the author and the editor of this paper. The generic name *Tingis* was first employed in the *Hemiptera* by Fabricius (1803, *Systema Rhyngotorum*, p. 124). It is the Greek name of Tangiers, in Latin *Tingi*, or *Tinge*. The family name derived from the generic name first appears in a Gallicized form "*Tingidites*" employed by Laporte in 1833. Westwood in 1840 used the word under the form "*Tingidæ*." Amyot and Serville in 1843 employed the Gallicized form "*Tingides*." Stål in 1873 employed the form *Tingitidæ* and was followed by Uhler, Champion, Horvath, Oshanin, Osborn, Drake, and many others. Van Duzee in 1917 in his "Cata-

## Genus PHATNOMA Fieber (1844).

*Phatnoma* FIEBER, Entomologische Monographien, 1844, pp. 30 and 57; STÅL, Enumeratio Hemipterorum, III, 1873, p. 117; CHAMPION, Biologia Centrali-Americana, Rhynchota, Vol. II, 1897, p. 2. Haplotype: *Phatnoma laciniata* FIEBER, from the "East Indies."

1. *Phatnoma marmorata* Champion.

*Phatnoma marmorata* CHAMPION, Biol. Centr.-Amer., Rhynchota, II, 1897, p. 3, Pl. I, figs. 1 and 1a. Type-locality Panama.

*Phatnoma filetia* GIBSON, Trans. Am. Ent. Soc., XLV, 1919, p. 185. Panama.

*Phatnoma spinosa* GIBSON, *l. c.* Panama.

This species was collected at Chapada, Brazil, by Mr. and Mrs. H. H. Smith. Champion records the insect from Panama. There are no specific differences in the original descriptions of the forms described by Gibson as *P. filetia* and *P. spinosa* from Panama. The types in the United States National Museum have been examined by the writer, and they are both synonyms of *P. marmorata*.

2. *Phatnoma varians* sp. nov.

Antennal tubercles long, curved inwardly. Antennæ long and slender, the first segment a little longer and thicker than the second, the third segment long, three and one-half times the length of the fourth. Head long, with seven long, stout spines, the median and anterior spines blunt, directed forward, and a little stronger than the others; the median spine considerably

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logue of the Hemiptera of America north of Mexico" employs "Tingididæ" as the family name, citing Laporte as his authority.

It has seemed both to the author and the editor that there should be some decision reached as to which is the correct spelling of the word.

The fixed rule, in forming family-names in scientific nomenclature, is to suffix the termination "idæ" to the stem of the word. The name Τίγγις is employed by Strabo in his Geography (Strabo, Geography, Part I, 3, 1, § 140, *Edit. Barrois*, 1815) and he uses the genitive form Τίγγιως. Therefore, in Greek the stem is Τίγγι = *Tingi*. Suffixing "idæ" to the Greek stem we would have *Tingiidæ*, after the analogy of *Hesperiidæ*, etc. But this has never been used.

However, scientific nomenclature is Latin, not Greek, save as latinized. The Latin adjective derived from *Tinge* (Tangiers) is *Tingitanus* (Cf. Pomponius Mela, C. Mamertinus, and Valpy's Edition of the Delphin Classics, Vol. LXXXIX, p. 882, where the commentator upon Pliny's *Historia Naturalis*, Lib. V, 1, 1, says: "*Tingitana pertinet a freto Gaditano ad fines usque Marocani regni.*") This adjectival form plainly indicates that the Latin root of the noun is TINGIT! Suffixing "idæ" to this root, we have the form employed by Stål, Champion, and many others. It appears to the editor that the word *Tingitidæ* is formed according to the best classic usage. It furthermore has in its favor the weight of authority. The genitive *Tingis* used by Fabricius, *l. c.*, p. 124, footnote, is plainly a lapsus, and the form *Tingidæ*, based on it by Westwood, is not correct. The form *Tingididæ* under any application of the rules is plainly incorrect. If the Latin stem is to be employed (and this is the rule), we have "Tingit," and to this adding "idæ" we have the family-name "Tingitidæ." (Cf. Science, N. S., Vol. LVI, pp. 334-5). W. J. HOLLAND.

longer than the two anterior spines. Rostrum reaching a little beyond the apex of the rostral sulcus. Pronotum coarsely and closely punctured, tricarinate, the carinæ distinct and parallel, but non-reticulate. Paranota angularly dilated before the middle as well as in front, becoming narrower behind, the angular anterior dilation ending in a short spine, and composed of three rows of areolæ in front. Scutellum small. Elytra with a distinct clavus as well as costal, subcostal, discoidal, and sutural areas; costal area with four rows of areolæ at the base, two or three at the middle, and three toward the apex, the areolæ not very regularly arranged; discoidal area with the margins curved and strongly raised, a little narrower and considerably shorter than the subcostal area. The costal area exhibits some variations in the arrangement of the areolæ, and also in the numbers of rows of areolæ at the middle.

General color rather dull stramineous, the head and body beneath darker, the elytra with a few small brownish spots on the costal nervures and on the nervelets of the costal area. Antennæ yellowish brown, the first and second segments brownish, the apical half of the fourth fuscous. Legs with the coxæ, trochanters, and femora brownish or nearly fuscous, the tibiæ and tarsi yellowish brown, the tips of tarsi darker.

Length 3 mm.; width 1.8 mm.

French Guiana: two specimens from "Env. de St.-Georges, Oyapock"; and one from Quary, collected by F. Geay, 1900. *Type*: a female from Env. de St.-Georges, Oyapock, in Paris Museum. *Paratypes*: in Paris Museum and my collection. One specimen from the neighborhood of St.-Georges, Oyapock, differs from the type and paratypes in having the lateral carinæ obsolete and the spines on the head a little shorter. Other characters and color are practically identical with the typical form. This variety is designated as *P. varians unicarinata* var. nov.

#### Genus COLEOPTERODES Philippi (1864).

*Solenostoma* SIGNORET, Annales de la Société Entomologique de France, 1863, p. 575. (Preoccupied by a genus of fishes, RAFINESQUE, 1815.)

*Coleopterodes* PHILIPPI, Stettiner Ent. Zeitung, XXV, 1864, p. 306; DRAKE, Florida Entomologist, V, 1922, p. 50.

Haplotype: *Coleopterodes (Solenostoma) liliputiana* Signoret.

#### 3. *Coleopterodes liliputiana* Signoret (Plate XXXIX, fig. 13).

*Solenostoma liliputiana* SIGNORET, Ann. Soc. Ent. France, 1863, p. 575, Pl. XIII, fig. 27.

*Coleopterodes fuscescens* PHILIPPI, Stett. Ent. Zeit., XXV, 1864, p. 306.

A short-winged female, labelled "Chili, Gay, 15-43," is figured. This specimen, from the Paris Museum, is probably one of the series of types. Several other specimens from Chile have been examined and the insect has also been reported from Argentina. The long-winged form is unknown.

Genus *MONANTHIA* Lapelletier et Serville (1825).

*Monanthia* LAPELLETIER et SERVILLE, Encyclopédie Méthodique, X, 1825, p. 653; VANDUZEE, Catalogue of the Hemiptera North of Mexico, 1917, p. 223.

*Dictyla* STÅL, Öfversigt af Kongliga Vetenskaps-Akademiens Förhandlingar, No. 3, 1874, p. 57.

Logotype: *Monanthia (Tingis) rotundata* (Herrich-Schæffer).

4. *Monanthia monotropidia* Stål.

*Monanthia (Physatocheila) monotropidia* STÅL, Rio Jan. Hemip., I, 1860, p. 63; Enum. Hemip., III, 1873, p. 133.

*Monanthia monotropidia* CHAMPION, Biol. Centr.-Amer., Rhynch., II, 1898, p. 47, Pl. III, figs. 24, 24a, and 24b.

Specimens of this species are at hand from Cuba, Hayti, Mexico, Guatemala, Panama, Colombia, and Brazil. It is perhaps one of the commonest and most widely distributed species of the genus in tropical America.

5. *Monanthia loricata* Distant.

*Monanthia loricata* DISTANT, Ann. Soc. Ent. Belg., XXXII, 1888, p. lxxxiii; CHAMPION, Trans. Ent. Soc. Lond., 1898, pt. 1, p. 64, Pl. III, fig. 11.

Chapada, Brazil, collected by Mr. and Mrs. H. H. Smith. The median carina is less elevated and thicker than in *M. figurata*, a new species, the description of which immediately follows.

6. *Monanthia figurata* sp. nov. (Plate XXXIX, fig. 12).

Head with five, short, porrect spines. Antennæ moderately long, slender; first and second segments about equal in length; third segment slightly more than three times the length of the fourth. Rostrum reaching to the mesosternum. Pronotum very coarsely punctured, tricarinate; median carina thin, moderately raised, the areolæ mostly indistinct; lateral carinæ short, present only on the triangular process, divaricating posteriorly. Elytra faintly constricted beyond the middle, the outer margins nearly parallel; costal area moderately broad, uniseriate, some of the transverse nervures placed close together in pairs; subcostal area triseriate at its widest part. Wings a little shorter than the elytra.

General color fuscous, with lighter markings. Antennæ yellowish brown, the first and fourth segments fuscous. Pronotum with the disc blackish, the collum, median carina, and paranota testaceous, or brownish testaceous; the triangular process reddish brown. Head black, the spines yellowish brown. Elytra fuscous, the areolæ lighter; the costal area brownish testaceous, the areolæ hyaline; body beneath black. Legs with the coxæ and trochanters reddish brown; the femora mostly fuscous or black; the apex of femora, the tibiæ, and the tarsi (the apices of the latter fuscous) yellowish brown or brownish.

Length 2.7 mm.; width .86 mm.

Closely allied to *M. loricata* Distant from Brazil, but separated from it by the smaller size, the narrower and less robust form, and the more elevated median carina.

Eight specimens, Chapada, Brazil. The *type*, a male in Carnegie Museum, is figured. *Paratypes*, males and females, in Carnegie Museum and my collection. The paranotum is similar to that of *M. loricata* Distant. I have six Brazilian specimens of the latter species before me.

#### 7. *Monanthia parmata* Distant.

*Monanthia parmata* DISTANT, Ann. Soc. Ent. Belg., XXXII, 1888, p. lxxxiii; CHAMPION, Trans. Ent. Soc. Lond., 1898, pt. 1, p. 64, Pl. III, fig. 12.

Several examples of this insect were taken at Chapada, Brazil, by Mr. and Mrs. H. H. Smith. It is more ovate and robust than the new species, *M. figurata*, described above.

#### 8. *Monanthia c-nigrum* Champion.

*Monanthia c-nigrum* CHAMPION, Biol. Centr.-Amer., Rhynch., II, 1897, p. 47, Pl. III, fig. 25.

Common in the West Indies, Mexico, and Central America. Specimens are at hand from Hayti, Guatemala, Nicaragua, and Mexico.

#### 9. *Monanthia balli* sp. nov.

General appearance smooth and somewhat shining. Head with two porrect frontal spines. Pronotum smooth, very strongly tumid on the disc, unicarinate, the lateral carinæ entirely wanting; paranota very strongly developed, reflected against the pronotum, contiguous with the median carina. Elytra smooth, shining, slightly longer than the abdomen; costal area moderately wide, uniseriate, the areolæ quite regularly arranged; subcostal area with four or five rows of areolæ at its widest part; discoidal area broadly and deeply rounded along the outer margin at the base, the latter extending deeply in the form of a semi-circular region into the subcostal area. Wings slightly longer than the abdomen.

Head black, the spines brownish. Antennæ testaceous, the fourth segment wanting. Body beneath black, the posterior margin of the thorax whitish. Legs yellowish brown, the tips of the tarsi fuscous. Pronotum mostly fuscous, the collum, and a broad margin of the paranota yellowish brown. Elytra yellowish brown, the nervures of the sutural and most of the discoidal and subcostal areas fuscous, the areolæ whitish, the areolæ of costal area hyaline.

Length 2.56 mm.; width 1.25 mm.

One specimen, a female, from Port au Prince, Hayti. *Type* in my collection. This very distinct species is named in honor of Dr. E. D. Ball, who kindly presented the specimen to me. The very strongly swollen disc of the pronotum and the smooth and somewhat shining appearance will readily separate *M. balli* from any American species in the genus.

#### GENUS TELEONEMIA Costa (1864).

*Teleonemia* COSTA, Annuario del Museo Zoologico della Regia Università di Napoli, II, 1864, p. 144; STÅL, Enumeratio Hemipterorum, III, 1873, pp. 122 and 131.

*Amaurosterphus* STÅL, Hemiptera Fabriciana, I, 1868, p. 92; Enumeratio Hemipterorum, III, 1873, p. 131.

*Tingis*, subgenus *Americia* STÅL, *ibidem*, 1873, p. 131.

*Lasiaeantha* LETHIERRY et SEVERIN, Catalogue Général des Hémiptères, III, 1896, p. 18 (in part), (*non* Stål).

Logotype: *Teleonemia funerea* Costa.

#### 10. *Teleonemia morio* (Stål).

*Tropidocheila morio* STÅL, Öfversigt af Kongliga Vetenskaps-Akademiens Förhandlingar, 1855, p. 187.

*Lacometopus morio* STÅL, Rio Jan. Hemip., I, 1860, p. 65.

*Teleonemia* (*Amaurosterphus*) *morio* STÅL, Enumeratio Hemipterorum, III, 1873, p. 131; CHAMPION, Trans. Ent. Soc. Lond., 1898, pt. 1, p. 61, Pl. III, fig. 2.

Taken at Chapada, Brazil, by Mr. and Mrs. H. H. Smith. I have in my collection a specimen determined by Stål.

#### 11. *Teleonemia aterrima* Stål.

*Teleonemia aterrima* STÅL, Enumeratio Hemipterorum, III, 1873, p. 131; CHAMPION, Trans. Ent. Soc. Lond., 1898, pt. 1, p. 62, Pl. III, fig. 3.

This species was described from Colombia. I have four specimens from Marcapata, Peru.

#### 12. *Teleonemia limbata* (Stål).

*Tingis* (*Americia*) *limbata* STÅL, Enumeratio Hemipterorum, III, 1873, p. 131.

*Teleonemia limbata* CHAMPION, Trans. Ent. Soc. Lond., 1898, pt. 1, p. 61.

Several specimens from Chapada and Corumbá, Brazil, collected by Mr. and Mrs. H. H. Smith.

#### 13. *Teleonemia chapadiana* sp. nov.

Robust, moderately elongate. Pronotum rugulose, narrowed anteriorly, very coarsely punctured, sharply tricarinate, the carinae rather thick, reticulate, nearly parallel, each composed of a single series of small areolae; median carina raised anteriorly and forming a small hood-like structure, the latter projecting but very slightly forward; paranota not very broad, strongly reflexed, composed of a single series of moderately large areolae. Rostrum reaching a little beyond the middle of the mesosternum. Elytra broadly rounded at the apex, very much like *T. variegata* Champion in form; costal area rather broad, composed of a single row of very long areolae (rectangular or triangular in shape) on the basal portion, biseriate beyond the middle; subcostal area biseriate; discoidal area with four or five rows of areolae at the widest part, the outer margin curved. The areolae of the elytra are rather coarse and large, extremely long (for this genus) on the basal portion of costal area and not very regularly arranged. Wings a little longer than the abdomen.

Body beneath, legs, and antennae fuscous, the last segment of the latter blackish. Pronotum dark yellowish brown, the triangular apex, median carina, paranota, and the anterior (raised)

portion of median carina, yellowish brown. Elytra yellowish brown, some of the nervures marked with fuscous, the areolæ of costal area hyaline and areolæ of the rest of the elytra whitish and opaque.

Length 4.85 mm.; width about 2 mm.

One female specimen, Chapada, Brazil, collected by Mr. and Mrs. H. H. Smith, in the Carnegie Museum. The insect in general appearance somewhat resembles *T. variegata* Champion, but is readily separated from it by the structures mentioned above.

#### 14. *Teleonemia brevipennis* Champion.

*Teleonemia brevipennis* CHAMPION, Trans. Ent. Soc. Lond., 1898, pt. 1, p. 63, Pl. III, fig. 9.

Peru; one specimen from Marcapata and two from Vilcanota. The species was described from the "Amazons."

#### 15. *Teleonemia hasemani* sp. nov.

Elongate, robust, head with five moderately long spines, the anterior spines with their apices meeting. Antennæ moderately long, rather stout, first segment a little longer than the second; third segment three times the length of the fourth, the latter considerably longer than the first two taken together. Pronotum coarsely punctate, narrowed in front, sharply tricarinate, each carina composed of a single row of narrow, elongate areolæ, the lateral carinæ slightly converging posteriorly; median carina somewhat raised in front, the elevated portion of pronotum projecting angularly in front; paranota narrow, strongly reflexed, mostly contiguous with the dorsal surface of the pronotum, uniseriate, the areolæ quite large. Elytra elongate, gradually widening from the base to about the middle, very broad at the middle and at the apex, slightly constricted beyond the middle, the apices subtruncate; costal area broad, mostly triseriate, the areolæ rather large and not very regularly arranged; subcostal area biseriate; discoidal area large, broad, long, extending beyond the middle of the elytra; the outer margin curved, with six or seven rows of areolæ at its widest part. Wings almost as long as the abdomen. Rostrum reaching to the end of the mesosternum. Length 5.45 mm.; width 2.2 mm.

Legs dark reddish brown. Antennæ dark reddish brown, the basal segment and apical half of fourth, black. Head and body black beneath, the spines testaceous. Pronotum blackish, the carinæ dark reddish brown, the paranota whitish. Elytra with the discoidal, subcostal, sutural (save three cells along the apical margin) areas fuscous; some of the areolæ partly whitish. Costal area testaceous, a broad fascia near the middle, and a broad oblique fascia (continued from sutural area) at the apex fuscous; some of the areolæ along the apical margin of the elytra whitish; the areolæ of testaceous areas subhyaline, and those of fuscous areas very much clouded with fuscous.

Length 5.45 mm.; width 2.2 mm.

Two specimens from Brazil collected by Mr. J. D. Haseman. *Type*: female, from São Antonio de Guaporé, Brazil, July 26, 1909, in Carnegie Museum. *Paratype*: with antennæ broken, in my collection from Rio Guaporé, near Forto Príncipe,

Brazil, Aug. 26, 1909. This species may be separated from *T. albomarginata* Champion by the more robust form, shorter antennæ, narrower paranota, the broad, transverse fascia near the middle of costal area, the much less elevated carinæ, and the hood.

*T. chilensis* (Reed) differs from *T. hasemani* in having much broader paranota, strongly raised carinæ, a moderately large hood, and the elytra broadest at the apex.

#### 16. *Teleonemia simulans* sp. nov.

Moderately long, robust. Antennæ rather short, moderately pilose, the first segment a little longer than the second, the third segment a little more than three times the length of the fourth. Rostrum reaching a little beyond the meso-metasternal suture. Hood larger and the carinæ more strongly foliaceous than in *T. chilensis*; lateral carinæ constricted at the middle, each composed of a single row of large areolæ; median carina strongly raised, biseriate and slightly more than twice as high as the lateral carinæ on the disc, uniseriate behind. Paranota formed as in *chilensis*. Hood moderately large, projecting slightly over the base of the head. Elytra broad, very broad in front of the middle and at the apex, and strongly constricted between, subtruncate at the apex; costal area rather broad, unevenly reticulated, mostly biseriate (some places triseriate); subcostal area biseriate, the areolæ rather large; discoidal area reaching beyond the middle of the elytra, composed of four rows of areolæ at its widest part. Wings about as long as the abdomen.

General color-pattern quite similar to *T. chilensis*, but the markings a little lighter and with a broader transverse band in front of the middle of the elytra. Elytra testaceous, the transverse bands (near the middle and at the apex) broad and of a fuscous color; discoidal and sutural (mostly fuscous) areas marked with brown or fuscous. The areolæ of costal area, except in fuscous bands, iridescent and nearly hyaline (one or two cells on each side clouded with fuscous), areolæ of subcostal and discoidal areas opaque whitish.

Length 4.3 mm.; width 2.26 mm.

Very similar in general appearance and color-pattern to *T. chilensis* (Reed), but easily distinguished from it by the shorter antennæ, the strongly arched median carina, and the much smaller size.

One specimen from El Gran Chaco, "Bords du Rio Tapenaga, Colonia Florencia, S. A.," in my collection.

#### 17. *Teleonemia chilensis* (Reed).

*Cantacader chilensis* REED, Revista Chilena de Historia Natural, IV, 1900, p. 180.

*Teleonemia chilensis* DRAKE, Florida Entomologist, Vol. V, 1922, p. 50.

Brazil, Argentina, and Chile. This species seems to be quite widely distributed in South America. The elytra are considerably constricted beyond the middle, and very broad a little in front of the middle and a little broader still at the apex. The costal area contains a broad, transverse, fuscous fascia a little in front of the middle; the areolæ are irregular in size and ar-



ranged in two (some places three) irregular rows. The paranota are strongly reflexed, rather strongly produced, projecting almost upright, the outer margin narrowly rounded. Pronotum tricarinate, each carina composed of a single row of rather large areolæ, the lateral carinæ constricted at the middle. Hood moderately large, the height and length about equal.

#### 18. *Teleonemia albomarginata* Champion.

*Teleonemia albomarginata* CHAMPION, Biol. Centr.-Amer., Rhynch., II, 1898, pp. 36 and 43, Pl. III, figs. 18 and 18a.

Champion records this insect from Panama and the Amazons. I have specimens before me from Guatemala, Venezuela, Brazil, and Peru.

#### 19. *Teleonemia triangularis* (Blanchard).

*Tingis triangularis* BLANCHARD, in D'Orbigny, Voyage en Amérique, etc., VI (2), 1843, p. 219, Pl. XXIX, fig. 9.

*Teleonemia (Americia) albilatera* STÅL, Enumeratio Hemipterorum, III, 1873, p. 131.

*Teleonemia triangularis* CHAMPION, Biol. Centr.-Amer., Rhynch., II, 1897, p. 43. (Footnote on synonymy.)

Several specimens have been examined from Brazil and one specimen labelled "Bolivia, Chiquitos, D'Orbigny, 1834." The latter is probably one of Blanchard's series of types, and is in a good state of preservation.

#### Genus EURYPHARSA Stål (1873).

*Eurypharsa* STÅL, Enumeratio Hemipterorum, III, 1873, pp. 122, 123; CHAMPION, Biol. Centr.-Amer., Rhynch., II, 1897, p. 44; Trans. Ent. Soc. Lond., 1898, p. 63. (Notes on synonymy.)

Haplotype: *Eurypharsa (Tingis) nobilis* (GUERIN).

#### 20. *Eurypharsa phyllophila* sp. nov.

Head armed with five moderately long spines. Pronotum narrowed anteriorly, very coarsely punctured, sharply tricarinate, the carinæ rather indistinctly reticulate; lateral carina slightly diverging posteriorly; median carinæ becoming more strongly raised and areolate anteriorly. Paranota not very broad, slightly reflexed, mostly biseriata, triseriate at the middle. Hood a little longer than high, projecting very slightly over the base of the head, very narrow, the sides very steep and roof-like. Antennæ moderately long, the first segment a little longer and thicker than the second, the third slightly curved and a little more than three times the length of the fourth. Rostrum reaching to the middle of the mesosternum. Elytra very broadly expanded, nearly three times as wide as the pronotum, subtruncate at the apex, very broadly and roundly expanded at the base and slightly rounded towards the tip; subcostal area narrow, biseriata, the areolæ small; costal area very broad, widely, irregularly, and rather unevenly reticulate, composed of numerous irregular rows of areolæ; discoidal area very long, composed of several irregular rows of small areolæ.

Head black, the spines yellowish brown. Antennæ and legs blackish fuscous. Body be-

neath dark fuscous, slightly tinged with red, the rostral laminæ and bucculæ yellowish brown. Pronotum reddish fuscous, the paranota, carinæ, and hood yellowish brown. Elytra yellowish brown, the discoidal and subcostal areas, and a broad transverse band near the apex fuscous; costal area along the basal three-fifths very broadly margined with fuscous, the areolæ (except in fuscous region) hyaline.

Length 6.1 mm.; width 4.5 mm.

*Type*: a male specimen from the Rio Guaporé, near Forto Principé, Brazil, collected August 25, 1909, by J. D. Haseman, in the Carnegie Museum. In addition to the structural characters, the color of the costal area, not entirely margined with fuscous, distinguishes this insect at once from any species described in the genus.

#### Genus AMBLYSTIRA Stål (1873).

*Amblystira* STÅL, Enumeratio Hemipterorum, III, 1873, pp. 120 and 129; CHAMPION, Biol. Centr.-Amer., Rhyneh., II, 1897, p. 29; Trans. Ent. Soc. Lond., 1898, pt. 1, p. 61.  
Haplotype *Amblystira pallipes* STÅL, from Brazil.

#### 21. *Amblystira morrisoni* sp. nov.

Narrow, elongate. Pronotum coarsely punctate, strongly swollen on the disc, unicarinate, the median carina distinct, but not strongly raised, the lateral carinæ wanting. Head short, furrowed in the middle, the frontal spines entirely wanting, the posterior spines represented by short tubercular-like processes. Elytra slightly constricted beyond the middle, rounded at the tip; costal area almost entirely absent, represented by an extremely narrow, almost obsolete carina-like process; subcostal area with three to four rows of areolæ at its widest part; discoidal area not reaching the middle of the elytra, the outer margin distinctly rounded and enlarged (extending into subcostal area) at the base. Rostrum reaching to the metasternum. Bucculæ not contiguous in front.

Head black, the posterior tubercular-like spines testaceous. First and second antennal segments testaceous, the others wanting. Pronotum fuscous, the median carina, median portion of collum, and posterior process testaceous. Elytra testaceous, a broad transverse band, extending from the inner margin of discoidal area to outer margin of elytra, fuscous; the sutural area partly imbrowned. Body black beneath. Legs testaceous, the tips of tarsi fuscous.

Length 2.5 mm.; width .75 mm.

Two specimens, collected four miles east of San Domingo City, Rep. San Domingo, West Indies, July 22, 1917, by Mr. Harold Morrison. *Type*, No. 25,280 U. S. N. M., a male. The obsolete costal area distinguishes this species at once from other members of the genus.

#### 22. *Amblystira nyctalis* sp. nov.

Antennæ longer than in *A. silvicola* sp. nov., the third segment one and one-third times the length of the fourth. Elytra slightly expanded beyond the base, slightly constricted beyond the

middle, feebly serrate along the lateral margins, the costal area uniseriate to behind the middle and biseriate at the widest part; subcostal area quadriseriate at its widest part; discoidal area with the outer margin nearly straight, with four rows of areolæ at its widest part, distinctly angulate, but not raised at the apex, the areolæ moderately impressed. Rostrum reaching to the end of the mesosternum. Wings almost as long as the elytra.

General color rather dull jet-black, the enlarged part of costal area testaceous, the distal portion of sutural area dark fuscous. Areolæ mostly black, the areolæ of testaceous region of costal area subhyaline, the areolæ of fuscous portion of sutural area mostly fuscous. Other characters quite similar to those of *A. silvicola*.

Length 2.85 mm.; width 1 mm.

Two specimens, one from Chapada and the other from Entre Rios, Brazil, collected by Mr. and Mrs. H. H. Smith. *Type*, a male from Chapada, in the Carnegie Museum. *Paratype*, without head and pronotum, in my collection. The longer antennæ and the mostly black areolæ of elytra distinguish *A. nyctalis* from *A. silvicola* sp. nov. *A. opaca* Champion has the pronotum unicarinate and *A. maculata* Van Duzee seems to be quite differently colored.

### 23. *Amblystira silvicola* sp. nov. (Plate XXXIX, fig. 6).

Pronotum narrowed anteriorly, closely and quite coarsely punctate, rugulose, tricarinate, the lateral carinæ slightly converging posteriorly and rather indistinct on the disc. Antennæ moderately long, slender; first and second segments about equal in length; third long and slender, a little less than twice the length of the fourth, the latter much longer than the first two taken together. Elytra considerably longer than the abdomen, broadly rounded at the tip, the outer margin serrate; costal area narrow at the base, becoming wider towards the apex, entirely uniseriate, the areolæ small on the basal portion and moderately large at the widest part, or biseriate at the widest part; subcostal area with five rows of areolæ at its widest part; discoidal area rather short, the outer margin nearly straight, with four rows of areolæ at its widest part, the apex angulate and distinctly raised. Wings longer than the abdomen.

Head and pronotum black, somewhat shining. Body beneath black. Elytra mostly black; the distal portion of sutural area dark fuscous, the widest part of costal area testaceous, the small areolæ of the black portion of the elytra opaque whitish, of the testaceous part of costal area subhyaline, and of the distal and fuscous portion of the sutural area clouded with fuscous around the borders, the centers pale. Antennæ whitish or testaceous, the distal three-fourths of the apical segment dark fuscous. Legs whitish or testaceous, the tarsi fuscous.

Length 3 mm.; width 1.1 mm.

Six specimens: three from Rio Machupo, Bolivia (near Rio Guaporé), collected July 29, 1909, by J. D. Haseman; one specimen from Rio Guaporé (near Forto Principé), Brazil, July 20, 1920, collected by Haseman; one specimen from Entre Rios, Brazil, collected by Mr. and Mrs. H. H. Smith; one specimen from bank of Demerara River, two miles from Georgetown, British Guiana, collected Sept. 22,

1916, by Mr. Harold Morrison. *Type*, a male from Rio Machupo, Bolivia, July 29, J. D. Haseman, in the Carnegie Museum. *Paratypes* in Carnegie Museum, National Museum, and my collection. The *type* has the antennæ and legs whitish, the tarsi and distal three-fourths of the last antennal segment fuscous; the widest part of the costal area is biseriata. Some of the paratypes have the antennæ and legs darker and the costal area entirely uniseriate. One specimen has the costal area biseriata on one side and uniseriate on the other. This species seems to differ from *A. pallipes* Stål in the narrower costal area and the differently colored elytra.

24. *Amblystira marginata* sp. nov. (Plate XXXIX, fig. 7).

Head, pronotum, and body beneath black. Elytra black, the costal area whitish testaceous. Antennæ moderately long, flavo-testaceous, the fourth segment black and moderately hairy; first segment a little thicker and longer than the second; third segment two and one-third times the length of the fourth, the latter longer than the first and second taken together. Rostrum reaching between the intermediate coxæ. Legs yellowish brown, the tarsi fuscous. Pronotum coarsely punctured, narrowed anteriorly, tricarinate, lateral carinæ distinct, but not strongly raised, non-reticulate, slightly diverging anteriorly; median carina a little more elevated, non-reticulate, slightly raised at the collum. Elytra broadest at the middle, the areolæ of subcostal and discoidal areas very small and punctiform; costal area moderately broad, mostly uniseriate, biseriata at the widest part, the areolæ moderately large, and set in a little from the outer margin; subcostal area broad, five or six rows of areolæ at the widest part; discoidal area short, broad, five to six rows of areolæ at the widest part; sutural area broad, the reticulations becoming larger towards the tip.

Length 3.1 mm.; width 1.2 mm.

Three specimens, taken at Paraiso, Canal Zone, Panama, Feb. 11, 1911, by Dr. E. A. Schwarz. *Type* (figured) No. 25,279 in U. S. National Museum; *paratypes* in National Museum and my collection. The flavo-testaceous costal area of the elytra distinguishes this insect at a glance from any species in the genus hitherto described.

Genus NYCTOTINGIS gen. nov.

Antennæ long, rather slender, quite widely separated at the base; first segment longer and slightly thicker than the second, the third very long and slender. Antenniferous tubercles well developed, moderately prominent. Bucculæ closed in front. Coxæ quite widely separated; rostral channel deep, uninterrupted, rather wide, the rostral laminæ strongly foliaceous. Head with five small spines, the spines arranged as in related genera. Rostrum reaching to the tip of the rostral sulcus. Metasternal orifices distinct. Pronotum quite strongly tumid on the disc, narrowed anteriorly, coarsely punctate, unicarinate. Paranota represented by a very narrow, non-reticulate, carina-like ridge. Hood small, formed by the raised collum and

median carina. Wings present. Elytra broad, considerably longer than the abdomen; discoidal area large, reaching beyond the middle of the elytra; costal area broad, the subcostal area long and narrow.

*Type* of genus, *Nyctotingis osborni* sp. nov., in the Carnegie Museum. This genus is perhaps most closely allied to *Teleonemia* Stål, from which it may be readily separated by the long and more slender antennæ, which are also much more widely separated at the base. It differs from *Leptoypha* Stål in the characters cited above and also in having the disc of the pronotum more swollen, longer elytra, etc.

25. *Nyctotingis osborni* sp. nov. (Text-figure No. 1).

Pronotum somewhat shining, very coarsely punctate, narrowed anteriorly, nearly truncate in front, transversely swollen through the disc, sharply unicarinate; the carina finely reticulated, raised in front, and thus forming a small hood-like structure. Head with short spines, the median spine appressed and the anterior ones converging. Antennæ very long, the first segment a little more swollen and about twice the length of the second, the third segment about three times the length of the fourth. Rostral laminae and bucculae well developed, the rostrum reaching to the apex of the rostral sulcus. Elytra broadly expanded, broadly rounded at the apex, the outer margin finely double-serrate; costal area quite broad, the areolæ moderately large, with eight or nine irregular rows of areolæ; discoidal area strongly elevated, long, reaching beyond the middle of the elytra, composed of several irregular rows of small areolæ at the widest part; subcostal area nearly perpendicular, mostly triseriate.

Head, eyes, pronotum, body beneath, including rostral laminae and bucculae, black. Elytra black, except the costal area, which is fuscous. Areolæ clouded with black, except those in costal area, which are fuscous. Legs black, the tibiae reddish brown. Antennæ with the first, second, and fourth segments black, the third reddish brown.

Length 4.43 mm.; width 2 mm.

One female specimen (*type*) from Chapada, Brazil, collected by Mr. and Mrs. H. H. Smith, in the Carnegie Museum.

Genus *TIGAVA* Stål (1860).

*Tigava* STÅL, Rio Jan. Hemipt., I, 1860, p. 63; CHAMPION, Biol. Centr.-Amer., Rhyneh., II, 1897, p. 32; CHAMPION, Trans. Ent. Soc. Lond., 1898, pt. 1, p. 61.

Haplotype: *Tigava præcellens* STÅL.

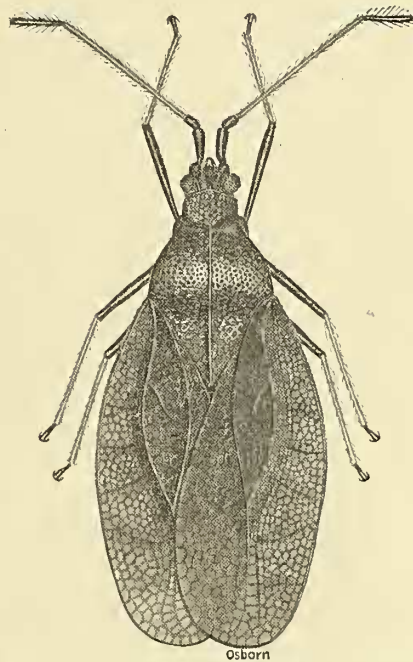


FIG. 1. *Nyctotingis osborni* gen. et sp. nov.

26. *Tigava notabilis* sp. nov. (Plate XXXIX, fig. 9).

Elongate and slender. Head smooth, with three very short, blunt spines, the median spine semi-erect and the latero-posterior spines (one on each side) appressed to the head. Antennæ very long and slender, the first and fourth segments subequal in length, each about five times as long as the second; third segment very long, a little more than three times the length of the fourth. Rostrum reaching a little beyond the prosternum. Pronotum coarsely punctate, the posterior triangular portion becoming distinctly reticulate posteriorly and with a large cell at the apex, tricarinate, each carina distinct, but non-reticulate. Paranota very narrow, carina-like, non-reticulate. Elytra long and narrow; costal area extremely narrow, carina-like, without trace of areolæ; subcostal area mostly biseriate, triseriate at the apex of discoidal area; discoidal area mostly triseriate, the areolæ slightly larger than those of subcostal area; sutural area broad, the areolæ becoming larger towards the apex and along posterior margin. Wings considerably longer than the abdomen.

General color yellowish brown, with brown and fuscous markings. Head reddish brown, the spines testaceous. Antennæ brown, the first and second segments reddish brown, the fourth segment fuscous. Pronotum testaceous, with a light or dark, broad, brownish streak between the carinæ. Elytra testaceous, a large portion of discoidal and sutural areas brown or fuscous, three or four areolæ near the apex hyaline. Legs brownish, the tips of femora, tibiæ, and tarsi fuscous. Body beneath dark fuscous.

Length 5 mm.; width 1 mm.

The very narrow carina-like paranota and costal area of the elytra, each without areolæ, distinguish *T. notabilis* at once from any other known species in the genus.

Sixteen specimens from Chapada, Brazil, taken during the months of April, May and November, by Mr. and Mrs. H. H. Smith. *Type*, male, in Carnegie Museum. *Paratypes* in Carnegie Museum and my collection.

27. *Tigava jansoni* sp. nov. (Plate XXXIX, fig. 8).

Moderately long, slender. Antennæ long, slender; first segment about three and a half times the length of the second; third segment a little more than three times the length of the fourth, the latter shorter than the first two taken together. Head tumid in front, with five spines; latero-posterior spines long, extending to the basal segment of the antennæ; median spine long, porrect, considerably longer than the anterior spines. Rostrum reaching to the mesosternum. Pronotum narrowed anteriorly, coarsely punctured, tricarinate, each carina distinctly raised, but non-reticulate. Paranota carina-like, non-reticulate. Elytra long, constricted a little beyond the middle; costal area very narrow, slightly widened posteriorly, uniseriate, somewhat reflexed anteriorly, the areolæ very small; subcostal area mostly biseriate, triseriate at the widest part, the areolæ a little smaller than those of discoidal area, the latter triseriate at its widest part; sutural area broad, the areolæ becoming larger distally.

General color yellowish brown, with brown and fuscous markings. Antennæ testaceous,

the basal segment dark reddish brown, the fourth mostly fuscous. Legs testaceous, the tips of tarsi brown. Head and median spines dark reddish brown, the other spines testaceous. Pronotum brownish. Elytra testaceous, eight or ten transverse nervures of costal area and most of discoidal area fuscous; sutural area partly clouded with brown or fuscous. Body beneath black, the rostral laminae and bucculae testaceous.

Length 3.7 mm.; width .68 mm.

Two specimens from Chapada, Brazil, collected by Mr. and Mrs. H. H. Smith. *Type* (figured), a male, in Carnegie Museum. This insect is very distinct from the described species in the genus, but very closely related to *T. mollicula* sp. nov. described below. The species is named in honor of Mr. A. R. Janson.

#### 28. *Tigava mollicula* sp. nov.

Antennæ rather long, slender; first segment long, a little shorter than in *T. jansoni* sp. nov., not quite two and one-half times the length of the second; third segment very long, three times the length of the fourth. Head with five spines, somewhat enlarged about the base of the median spine; posterior spines decumbent, reaching to the base of the antennæ; median spines rather long, reaching to the middle of the first antennal segment; anterior spines about half as long as the median spines. Rostrum reaching to the metasternum. Pronotum coarsely punctate, becoming reticulate on the posterior portion, tricarinate; each carina thin, distinctly raised, composed of a single row of indistinct areolæ; paranota narrow, composed of a single row of very small areolæ. Elytra as in *T. jansoni*, the costal area slightly broader. Wings considerably longer than the abdomen.

General color yellowish brown, with brown and fuscous markings. Antennæ testaceous, the basal segment brown, the apical segment mostly fuscous. Head brown, the posterior spines testaceous. Pronotum yellowish brown, some of the nervures of triangular process partly fuscous. Elytra yellowish brown, about ten or twelve transverse nervures in costal, most of discoidal and part of sutural areas clouded with brown and fuscous. Body beneath blackish.

Length 3.8 mm.; width .7 mm.

Allied to *T. jansoni*, but differs from it in having shorter antennæ, a longer rostrum, broader (uniseriate) paranota, and more strongly raised carinae.

Two specimens from Chapada, Brazil, taken by Mr. and Mrs. H. H. Smith. *Type*, female, in Carnegie Museum. *Paratype*, antennæ broken, in my collection.

#### Genus TINGIS Fabricius (1803).

*Tingis* FABRICIUS, Systema Rhyngotorum, 1803, p. 124.

*Monanthia* FIEBER, Entomologische Monographien, 1844, p. 38 (in part).

Logotype: *Tingis (Cimex) cardui* (Linnaeus).

Subgenus TINGIS (FABRICIUS) HORVATH, 1906.

*Monanthia* subgenus *Platychila* FIEBER, Die Europäischen Hemiptera, 1861, p. 119.

Subgenus *Tingis* HORVATH, Annales Historico-Naturales Musei Nationalis Hungarici, Vol. IV, 1906, pp. 67 and 71.

Logotype of subgenus, *Tingis (Cimex) cardui* (Linn.).

29. *Tingis americana* sp. nov. (Plate XXXIX, fig. 11).

Moderately large, broadly ovate, moderately clothed with short, fine pile. Antennæ moderately long; first segment slightly thicker and a little longer than the second; third segment slenderest, one and two-third times the length of the fourth. Pronotum coarsely punctate, narrowed anteriorly, distinctly depressed back of the collum, tricarinate, each carina distinctly raised on the disc and non-reticulate, more raised posteriorly and reticulate; the lateral carina converging posteriorly; paranota moderately broad, faintly reflexed, biseriate in front, uniseriate behind, the areolæ large and hyaline, the outer margin nearly straight. Elytra broad, broadly rounded at the tip; costal area broad, triseriate, the areolæ large and hyaline; subcostal area uniseriate; discoidal area broad, extending considerably beyond the middle of the elytra, with a slightly raised, longitudinal, adventitious nervure between the outer margin and the middle. Wings almost as long as the elytra. Head with four slender, blunt, moderately long spines, the median spine obsolete, the antenniferous tubercles rather long, blunt, and slightly curved. Rostrum reaching a little beyond the prosternum.

Head dark brown or blackish, the eyes blackish, the spines brownish or testaceous, the fine hairs whitish. Antennæ with the first and second segments dark brown, the third testaceous, the fourth fuscous. Pronotum brown, the depressed area back of the collum black, the pile whitish or pale yellowish brown. Elytra yellowish brown, four to six transverse nervures of costal area and one or two spots in discoidal area brown or fuscous. Body beneath dark brown, the thorax darker. Legs dark brown, the tibiæ and tarsi, except tips, lighter.

Length 2.72 mm.; width 1.6 mm.

Four specimens, Chapada, Brazil, collected by Mr. and Mrs. H. H. Smith. *Type* a female (figured) in the Carnegie Museum. *Paratypes* in Carnegie Museum and my collection. This species seems to belong to the Palæarctic genus *Tingis* Fabr., subgenus *Tingis* Fabr., and is the first record of the occurrence of this genus in America. Several American species have been described and placed in the genus *Tingis*, but they belong in other genera and have been incorrectly placed in the genus *Tingis*.

Genus NEOTINGIS gen. nov.

Pronotum coarsely punctate, transversely swollen on the disc, somewhat narrowed in front, tricarinate, the lateral carina becoming obsolete anteriorly. Collum distinct. Hood wanting. Paranota present. Bucculæ broad, long, closed in front. Rostrum reaching a little beyond the prosternum. Rostral laminæ widely separated. Rostral groove uninterrupted, closed behind. Metasternal orifice indistinct. Head long, with two long spines (one on each side of the median line) in front; median spine wanting; posterior spines represented by short ridge-like spines appressed to the head. Antenniferous tubercles rather stout, long. Eyes small, not very promi-



ment. Antennæ slender, moderately long; first segment a little thicker and longer than the second; third very long and slender; fourth swollen on the distal half. Wings present. Elytra broad, considerably longer than the abdomen, the discoidal almost reaching to the middle of the elytra.

*Type* of genus, *Neotingis hollandi*, sp. nov. In general appearance this species, although it belongs to the *Tingitini*, greatly resembles the genus *Phatnoma* Fieber of the *Cantacaderini*.

### 30. *Neotingis hollandi* sp. nov. (Plate XXXIX, fig. 5).

Head slightly rugulose, the anterior spines very long, slender, reaching almost to the end of the first antennal segment, the tips meeting. Antennæ moderately long, slender, the third segment about three times the length of the fourth, the latter considerably swollen on the distal half. Rostrum reaching to the middle of the mesosternum. Pronotum very coarsely and closely punctate, the lateral carinæ distinct on the triangular portion; the paranota moderately broad, strongly and angularly produced antero-laterally in front. Wings much longer than the abdomen. Elytra broad, broad-oval in outline; costal area broad, triseriate at the base and apex, biseriata in the middle, the areolæ large and not very regularly arranged; subcostal area broad, with five rows of areolæ at its widest part; subcostal area moderately large, with four rows of areolæ at its widest part, angulate at the apex, the outer boundary distinctly curved.

General color yellowish brown, the swollen part of fourth antennal segment and tips of tarsi fuscous. Reticulations marked here and there with brown, the areolæ mostly hyaline. Body beneath black, the genital segments somewhat reddish.

Length 2.84 mm.; width 1.6 mm.

*Type* (figured), a female from Chapada, Brazil, in the Carnegie Museum, collected by Mr. and Mrs. H. H. Smith. The species is named in honor of Dr. W. J. Holland, who has taken a very active interest in South American insects.

### Genus ATHEAS Champion (1898).

*Atheas* CHAMPION, Biol. Centr.-Amer., Rhynch., II, 1898, p. 44; HEIDEMANN, Bull. Buffalo Society of Natural Sciences, IX, 1909, p. 231; VAN DUZEE, Cat. Hemip. Amer. North of Mexico, 1917, p. 222. Logotype: *Atheas nigricornis* CHAMPION.

### 31. *Atheas elongata* sp. nov. (Plate XXXIX, fig. 1).

Very elongate, narrow. Pronotum coarsely punctate, slightly narrowed anteriorly, tricarinata, the carinæ only slightly raised on the disc, the lateral carinæ slightly diverging anteriorly. Paranota very narrow, linear, composed of a single series of tiny areolæ. Head longer than broad, the anterior and posterior spines rudimentary, the median spine obsolete. Antennæ moderately long, the first segment not quite twice as long as the second; third segment a little more than two and a half times the length of the fourth; fourth segment shorter than the first and second conjoined, moderately swollen and clothed with a few long hairs towards the tip. Rostral laminae nearly parallel, the rostrum reaching to the middle of the mesosternum. Elytra elongate, narrow; costal area very narrow, uniseriate; the areolæ very small; subcostal area not twice as wide as the costal area, biseriata; discoidal area very long, reaching beyond the middle of the elytra, the outer margin nearly straight, with five rows of areolæ at its widest part.

General color testaceous. Head black, the rudimentary spines testaceous. Pronotum dark fuscous, the apex of triangular portion, paranota, the anterior end of the lateral carinae, and central portion of the collum testaceous. Elytra testaceous. Antennae dark brownish black, the third segment becoming slightly lighter towards the tip. Legs dark brown. Body beneath brownish black, the thorax almost black.

Length 3 mm.; width .68 mm.

Two specimens. *Type* (figured) from Chapada, Brazil, in the Carnegie Museum. *Paratype*, from the same locality, in my collection. The latter has one of the antennae wanting. This species is very distinct and can not be easily confounded with any described species in the genus.

#### Genus ACYSTA Champion (1898).

*Acysta* CHAMPION, Biol. Centr.-Amer., Rhynch., II, 1898, p. 46.

Logotype: *Acysta integra* Champion.

#### 32. *Acysta brasiliensis uniseriata* var. nov. (Plate XXXIX, fig. 10).

Differs from *A. brasiliensis* Drake, Florida Entomologist, Vol. V, No. 3, 1922, pp. 42 and 43, from Pará, Brazil, in having a little shorter antennae and a little broader discoidal area; the costal area is composed of one complete row of areolae and a few extra areolae at its widest part. Other characters and color about the same as in the typical form. The pronotum and portions of the elytra, as in the typical forms, usually covered with a whitish exudation.

Length 2.67 mm.; width 1.1 mm.

Three specimens from Chapada, Brazil, collected by Mr. and Mrs. H. H. Smith. The *type*, is a female in the Carnegie Museum, (figured). *Paratypes* in the Carnegie Museum and my collection. In *A. brasiliensis* the costal area of the elytra is composed of two complete rows of areolae and the outer margin of the discoidal area is perhaps a little straightened. The typical form and the variety are almost identical in size (through a typographical error the dimensions of the former, *l. c.*, p. 42, are too large and erroneously given), distinctly hairy on the pronotum and elytra, and with two prominent, raised points on each elytron.

#### CORYCERA gen. nov.

Head somewhat tumid in front, the anterior and median spines replaced by stout, blunt, finger-like processes. These finger-like structures are very prominent and are directed forward. The posterior spines are short. Hood wanting. Pronotum tricarinate. Bucculae closed in front. Metasternal orifices distinct. Other characters as in *Gelchossa* Kirkaldy (*Leptostyla* of Stål). Except for the finger-like horns, the species have the general appearance of *Atheas* of Champion. Two species are described below. The type of the genus, *Corycera comptula* sp. nov., is in the Carnegie Museum.

33. *Corycera comptula* sp. nov. (Plate XXXIX, fig. 3).

Pronotum narrowed anteriorly, closely punctate, slightly rugulose, considerably swollen on the disc, sharply tricarinate, the lateral carinæ slightly converging posteriorly, the median carina a little more elevated than the lateral carinæ; collum distinct, composed of two quite regular rows of very small cells; paranota narrow, long, uniseriate, the areolæ small. Head considerably swollen in front, the horn-like processes long, thick, cylindrical, reaching a little beyond the first antennal segment, the median a little shorter than the others, and its tip reaching but very slightly beyond the end of the first antennal segment. Posterior spines short, appressed, extending almost to the middle of the eyes. Antennæ long, slender, first segment considerably thicker and about twice as long as the second; third segment slightly more than two and one-half times the length of the fourth, the latter longer than the first and second taken together. Rostrum reaching almost to the end of the mesosternum. Elytra considerably longer than the abdomen, broadly rounded at the tips, slightly constricted beyond the middle; costal area rather narrow at the base, considerably wider towards the apex, uniseriate, the areolæ moderately large beyond the discoidal area; subcostal area moderately broad, with four rows of areolæ at its widest part; discoidal area not reaching to the middle of the elytra, moderately large, strongly raised at the tip, with four rows of areolæ at its widest part, the outer margin slightly rounded. Wings a little shorter than the elytra.

Body beneath, head, eyes, spines, and horn-like processes black. Antennæ pale testaceous, the basal segment ferruginous, the distal half of the fourth fuscous. Pronotum black, the paranota and the tip of triangular process flavous. Legs yellowish brown, the tips of tarsi fuscous. Elytra blackish fuscous; the costal area flavous, most of the transverse nervures on the basal half fuscous.

Length 2.72 mm.; width .9 mm.

Two specimens from Chapada, Brazil, taken by Mr. and Mrs. H. H. Smith. *Type* (figured), a male in the Carnegie Museum; *paratype* (female) in my collection.

34. *Corycera rugulosa* sp. nov.

Head with the anterior finger-like projections smaller and shorter than in *C. comptula*, not reaching the end of the first antennal segment, the median horn-like process a little thicker and slightly longer than other two. Pronotum more rugulose, more strongly swollen on the disc, and the paranota narrower than in *C. comptula*; tricarinate, the lateral carinæ only slightly raised on the disc, becoming almost obsolete anteriorly. Elytra rather coarsely reticulated; subcostal area mostly triseriate, the areolæ larger than in *C. comptula*; discoidal area not raised at the apex, triseriate at the widest part, the areolæ about equal in size to those of subcostal area. The elytra dark fuscous, but not as blackish as in *C. comptula*. Other characters and color very much like those of *C. comptula*.

Length 2.55 mm.; width about .9 mm.

Resembles at first sight the foregoing species, *C. comptula*, but separated from it by the shorter horn-like projections on the head, the more tumid and rugulose pronotum, and the coarser and larger reticulation of the elytra.

The *type* (female) from Chapada, Brazil, is in the Carnegie Museum.

## Genus LEPTOPHARSA Stål (1873).

*Leptopharsa* STÅL, Enumeratio Hemipterorum, III, 1873, pp. 122 and 126; CHAMPION, Biol. Centr.-Amer., Rhyneh., II, 1897, p. 21.

Logotype: *Leptopharsa elegantula* STÅL.

35. *Leptopharsa illudens* sp. nov.

Head with the anterior and median spines much reduced, the anterior ones sometimes wanting, the posterior spines rather long and appressed. Antennæ long, the first segment twice the length of the second; third segment a little more than twice the length of the fourth, the latter considerably longer than the first two conjoined. Rostrum reaching slightly beyond the prosternum, the rostral laminae widely separated on the metasternum. Pronotum closely punctate, narrowed anteriorly, tricarinate; lateral carinae parallel, slightly less raised than the median carina, the areolæ very tiny, almost obsolete; median carina raised anteriorly, the areolæ tiny; hood very small, formed largely by the raised median carina, transverse, projecting slightly in front. Paranota narrow, mostly biseriate, the outer margin nearly straight. Elytra rather narrow, considerably longer than the abdomen, the outer margins nearly parallel, broadly rounded at the tip; costal area moderately broad, biseriate, the areolæ quite regularly arranged; subcostal area narrow, biseriate, the areolæ small; discoidal area rather broad, with five or six rows of areolæ at its widest part, the outer margin slightly rounded. Wings considerably longer than the abdomen.

Pronotum brown or fuscous, the paranota, apex of triangular process, hood and carinae whitish. Elytra entirely whitish or with the discoidal area brown, the sutural area partly embrowned and the subcostal area testaceous. Head brown or fuscous, the spines whitish. Antennæ with the first and second segments brown or dark brown, the fourth (save small basal portion) fuscous, the third brown and gradually becoming testaceous towards the apex. The third antennal segment shows considerable variation in the amount of brown and testaceous color. In the *type* it is mostly brown and only about the distal fourth somewhat testaceous. Legs testaceous, the tips of tarsi fuscous. Body beneath dark brown or blackish.

Length 3 mm.; width 1 mm.

Very closely allied to *L. elegantula* Stål of South America, but separated from it at once by the narrower and biseriate costal area of the elytra. The median carina, as in *L. manihotæ* n. sp., is raised anteriorly, and the hood is much reduced and only a little higher than the median carina.

Five specimens from Jamaica and Porto Rico. *Type*, a female from Mandeville, Jamaica, collected by E. P. Van Duzee, April 1906, in my collection. This specimen is labeled, "*Atheas nigricornis* Champ. det. Van Duzee," and is perhaps the insect referred to in "Notes on Jamaican Hemiptera," Bull. Buffalo Soc. Nat. Hist., Vol. VIII, No. 5, 1907, p. 22, as *A. nigricornis*. It is not at all like my cotype of Champion's *A. nigricornis*. Three *paratypes* from the Porto Rico Experiment Station, collected by A. W. Bartell, July 23, 1902; one *paratype* from San

Pedro de Mocosis, Rep. Dom., July 15, 1917 (336), by Harold Morrison, in National Museum. The *paratypes* are a little lighter in color than the *type* and are perhaps somewhat teneral.

36. *Leptopharsa longula* sp. nov. (Plate XXXIX, fig. 4).

Elongate, moderately broad. Head smooth, armed with five spines, the median spine rather short, blunt and porrect; the posterior spines very long, slender, nearly prostrate. Antennæ long and slender; first segment four times the length of the second; third segment very long, nearly three times the length of the fourth, the latter a little longer than the first two conjoined. Pronotum rather coarsely punctate, tricarinate, each carina thin and composed of a single row of very small areolæ, the lateral carinæ parallel. Paranota moderately broad, slightly reflexed, mostly biseriate, the outer margin nearly straight, rounded at the anterior and posterior ends. Hood small, transverse, projecting a little in front. Rostrum reaching to the mesosternum, the rostral channel very narrow on the pro- and mesosternum, widely separated on the metasternum. Elytra very long, faintly constricted beyond the middle; costal area rather broad, composed of two rows of areolæ; subcostal area narrow, biseriate; discoidal area not quite reaching the middle of the elytra, the outer margin nearly straight, with five rows of areolæ at its widest part. Wings considerably longer than the abdomen.

Head brown, the spines testaceous. Antennæ with the first and second segments dark brown or fuscous, the third segment testaceous, the fourth, save a small basal portion, fuscous. Pronotum brown, the carinæ, paranota and apical portion of triangular process testaceous. Elytra brown, the costal area testaceous, the sutural area partly clouded with fuscous. Legs testaceous, the tips of tarsi darker.

Length 3.52 mm.; width .55 mm.

Two specimens from Chapada, Brazil. *Type*, figured, a female in the Carnegie Museum. *Paratype*, antennæ wanting, in my collection.

37. *Leptopharsa manihotæ* sp. nov.

Form and size about the same as *L. longula*, the antennæ shorter, the first segment three times the length of the second, the third segment a little less than two and one-half times the length of the fourth. Posterior spines on the head shorter than in *L. longula*. Pronotum rather coarsely punctate, the median carina distinctly raised in front, projecting slightly over the base of the head, the raised collum and median carina forming a small hood-like structure. In *L. longula* the hood is much higher than the median carina. Other characters, except the punctiform reticulations of subcostal and discoidal areas, very much like those in *L. longula*.

Head blackish or fuscous, the eyes dark reddish. Pronotum fuscous, the carinæ, paranota, apex of triangular process, and anterior margin of collum light testaceous. Elytra fuscous, the costal area testaceous, the sutural area partly fuscous. Areolæ of paranota and costal area hyaline, of sutural area hyaline or subhyaline. Body beneath black. Legs pale brown, the tips of tarsi fuscous. Antennæ with first, second, and fourth (save small basal portion) segments fuscous, the third pale brown.

Length 3.5 mm.; width .52 mm.

Very much like *L. longula* n. sp., but easily separated from it by the punctiform areolæ of the subcostal and discoidal areas, the distinctly raised median carina in front, and the almost obsolete hood.

Three specimens, Trinidad, B. W. I. *Type*, female No. 25,305, in U. S. Nat. Mus. *Paratypes* in Nat. Mus. and my collection. This species feeds and breeds upon cassava, *Manihot* sp.

#### Genus GELCHOSSA Kirkaldy (1904).

*Leptostyla* STÅL, Enumeratio Hemipterorum, III, 1873, pp. 120 and 125; CHAMPION, Biol. Centr.-Amer., Rhynch., II, 1897, p. 11; VAN DUZEE, Cat. Hemip. Amer. North of Mexico, 1917, p. 218; McATEE, Bull. Brooklyn Ent. Soc., Vol. XII, No. 3, 1917, pp. 55-64.

*Gelchossa* KIRKALDY, The Entomologist, XXXVII, 1904, p. 280.

Logotype: *Gelchossa (Tingis) oblonga* (Say).

The genus *Leptostyla* was first established by Paolo Lioy, 1864, *Atti dell' Istituto Veneto*, 3a Ser., T. IX, p. 1350 (I Ditteri distribuiti secondo un nuovo methodo di classificazione naturale), for a genus of *Muscidae* (Diptera) and has priority over *Leptostyla* Stål, 1873 (Hemiptera). In view of the foregoing fact, *Gelchossa* was proposed by Kirkaldy in 1904, and replaces the preoccupied name *Leptostyla* Stål (*Hemiptera*, *Tingitidae*).

#### 38. *Gelchossa albocosta* sp. nov. (Plate XXXIX, fig. 2).

Pronotum narrowed anteriorly, rugulose, coarsely punctured, tricarinate, the lateral carinae diverging slightly posteriorly, the median carina slightly more elevated on the collum. Paranota rather narrow, uniseriate. Rostrum not quite reaching the middle of the mesosternum. Antennæ rather long and slender, the first segment a little thicker and distinctly longer than the second; third segment long, more than two and one-half times the length of the fourth. Elytra constricted beyond the middle; costal area moderately wide, uniseriate, the areolæ hyaline; subcostal area mostly triseriate, the areolæ about equal in size to those of discoidal area; discoidal area quadriseriate at the widest part, the outer margin slightly rounded; sutural area rather broad, the areolæ becoming larger posteriorly. Wings almost as long as the elytra. Head with the latero-posterior spines long, contiguous with the surface of the head; median spine very short and almost obsolete; anterior spines moderately long, their apices meeting.

Head black, the posterior spines yellowish. Antennæ testaceous, the distal two-thirds of fourth segment blackish. Pronotum black, the triangular portion fuscous, the paranota whitish. Elytra fuscous, the costal area whitish. Body beneath black. Legs testaceous, the tips of tarsi brownish.

Length 2.27 mm.; width .82 mm.

One specimen (*type*, male) from Chapada, Brazil, collected by Mr. and Mrs. H. H. Smith, in the Carnegie Museum.

39. *Gelchossa magnifica* sp. nov.

Paranota enormously developed, very long and broad, nearly semiglobose, strongly constricted at the middle of the outer margin and extending high over and above the sides of the pronotum, composed of several rows of areolæ, the areolæ rather large and irregular in size. Pronotum coarsely punctate, unicarinate. Hood rather large, ovoid, higher than long, not quite as highly elevated as the paranota, a few short spines on the nervures, the sides slightly compressed. Median carina enormously developed posteriorly, very highly arched behind, united to the median nervure of the hood a little above the base of the hood. Paranota and median carina armed with short spines on their margins. Lateral carinæ entirely wanting. Rostrum reaching almost to the end of the rostral sulcus. Head largely concealed by the hood, the posterior spines obsolete, the anterior spines moderately long and directed downwards. Antennæ long and slender, sparsely setose; third segment slightly more than three times as long as the second, the latter short; third segment very long, slightly more than twice the length of the fourth, the latter longer than the first two segments conjoined. Elytra long and divergent, widening from the base, with a double row of short spines along the outer margin, not broadly rounded at the tip, the tumid elevations very strongly inflated and large; costal area very broad, with four or five rows of large areolæ at its widest part, the areolæ becoming larger distally.

General color testaceous, with brownish markings. Body beneath dark reddish brown or fuscous. Areolæ of paranota considerably clouded with brown. Pronotum brown, usually covered with a whitish exudation. Median carina with a large fuscous area. Elytra testaceous, the apical areolæ, forming an oblique cross-band, partly clouded with fuscous. Areolæ subhyaline. Antennæ testaceous, the first two and apical segments usually brownish. Legs yellowish brown. The color of paranota and elytra varies somewhat in different specimens.

Length 5 mm.; width 3.2 mm. (through tumid elevations).

Twelve specimens from Chapada, Brazil. *Type*, a female from Chapada, collected by Mr. and Mrs. H. H. Smith, in the Carnegie Museum. *Paratypes* in Carnegie Museum, Paris Museum, and my collection.

GENUS *LEPTOBYRSA* Stål (1873).

*Leptobyrsa* STÅL, Enumeratio Hemipterorum, III, 1873, pp. 119 and 123; CHAMPION, Biol. Centr.-Amer., Rhynch., II, 1897, p. 25; BERG, Hemiptera of Argentina, 1884, p. 135.

Haplotype: *Leptobyrsa steini* STÅL.

40. *Leptobyrsa elegantula* sp. nov. (Text-figure 2b).

Broad; head smooth, shining, armed with five long, slender spines. Antennæ moderately long, clothed with numerous, long, projecting hairs; first segment a little thicker and a little more than twice as long as the second; third segment almost twice as long as the fourth, the latter considerably longer than the first and second conjoined. Pronotum rather closely punctured, unicarinate, the carina distinct but only feebly raised; hood wanting; posterior triangular portion greatly abbreviated, leaving a large triangular area exposed between the elytra, and excavated at the middle. Paranota strongly and somewhat arcuately produced in front, almost reaching

to the apex of the second antennal segment, with two rows of areolæ (one very large cell at the anterior margin bordered with from five to seven smaller cells) in front, and diminishing to one or two small cells at the posterior end. Elytra with the tumid elevations poorly developed, almost obsolete, the margins of paranota and elytra with rather long, slender spines; costal area composed of four or five rows of areolæ; subcostal and discoidal areas not distinctly defined. Wings rudimentary. Rostrum reaching almost to the intermediate coxæ.

General color yellowish brown, the poorly developed tumid elevations partly clouded with fuscous. Areolæ hyaline. Body beneath brown or yellowish brown. Antennæ uniform yellowish brown; in some specimens the first and second segments are brown.

Length 3.8 mm.; width 2.7 mm.

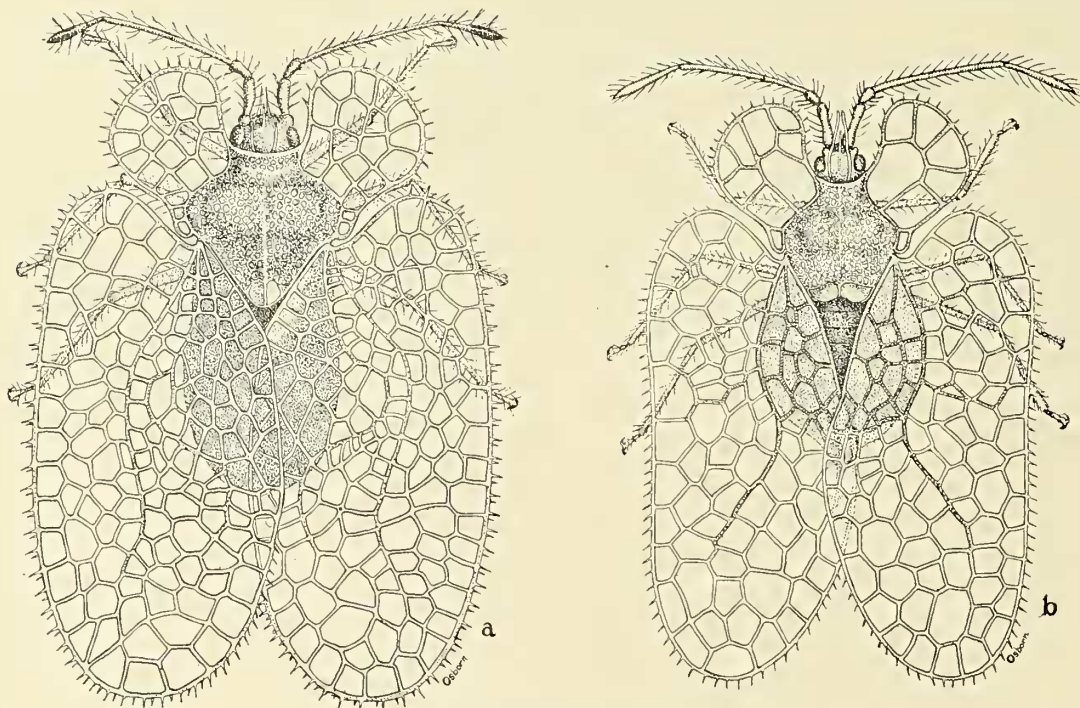


FIG. 2. *a*, *Leptobyrsa splendida* Drake, sp. nov.  
*b*, *Leptobyrsa elegantula* Drake, sp. nov.

Ten specimens; nine from Chapada, Brazil (H. H. Smith), and one (*paratype* in Paris Museum) labeled "*Brazil*." *Type* (male from Chapada) in the Carnegie Museum. *Paratypes* in Carnegie Museum and my collection.

#### 41. *Leptobyrsa splendida* sp. nov. (Text-figure 2a).

Broad, almost rectangular in outline. Head smooth, shining, armed with five long, slender spines. Rostrum reaching a little beyond the middle of the mesosternum. Antennæ moderately long, clothed with numerous long, projecting hairs; first segment slightly more than twice the length of the second; third segment a little less than twice the length of the fourth. Pronotum coarsely punctured, unicarinate, the carina distinct, but only feebly raised (in a de-



pressed groove on the disc); posterior triangular portion fully developed, ending in a broad apex. Paranota strongly and arcuately produced in front, a little broader and the areolæ smaller than in *L. elegantula* sp. nov. Paranota and elytra armed with moderately long, slender spines on the outer margins, the elytra with an additional suberect row of spines. Elytra with moderately large reticulations; tumid elevations faintly developed, nearly flat; costal area with three or four rows of areolæ; discoidal and subcostal area not plainly differentiated.

General color yellowish brown. Eyes black. Antennæ yellowish brown, the distal half of fourth segment fuscous. Body beneath brownish.

Length 4.1 mm.; width 3.18 mm.

Allied to *L. elegantula* n. sp., but differs in having smaller reticulations, broader paranota and in the well developed triangular portion of the pronotum.

Two specimens. *Type*, a female (figured), from Chapada, Brazil, in the Carnegie Museum. *Paratype*, S. Antonio, Province de Bahia, Brazil, in my collection. *L. splendida* and *L. elegantula* are not easily confused with *L. steini* Stål from Brazil.

#### 42. *Leptobyrsa decora* sp. nov.

Moderately broad. Head with five long and very slender spines; anterior spines projecting a little forward, shorter than the first antennal segment; median spine porrect, a little longer than the first antennal segment; posterior spines very long, very slender, appressed to the surface of the head. Antennæ moderately long, slender, clothed with numerous, long, projecting hairs; the first segment twice as long as the second, the third very long and slender. Rostrum reaching to the metasternum. Pronotum tricarinate, the carinæ strongly foliaceous; lateral carina arch-like, parallel, a little more strongly raised towards the front, each composed of two or three large cells and a small cell in front; median carina strongly arched at the middle, composed of a single row of large areolæ. Hood higher than long, not very broad. Paranota long, broad, moderately reflexed, the outer margin slightly rounded, biseriate, the outer row of areolæ large. Elytra broad, the tumid elevations well developed, somewhat rounded, each deeply constricted on the inner side; costal area broad, triseriate at its widest part, the areolæ large. Margins of elytra and paranota finely serrate, clothed with a few long, fine hairs; the nervures with a few erect hairs. Wings poorly developed. Legs moderately hairy.

Testaceous, a few of the nervures of carinæ, paranota, and tumid elevation fuscous. Head and body brown, the median and anterior spines dark brown, the posterior spines whitish. Antennæ yellowish brown, the fourth segment wanting. Legs yellowish brown, the tips of tarsi fuscous.

Length 3.85 mm.; width 2.25 mm.

Allied to *L. medocina* Pennington, but distinguished from it by the higher and narrower hood, the more foliaceous median carina, the larger areolæ, the smaller tumid elevation, and the more widely separated tips of the elytra.

Three specimens: two from Lacumbre, Colombia, alt. 6600 feet, June 2, 1914, by Mr. H. S. Parish; and one specimen (antennæ broken and wings damaged)

from Ber. San Pedro and Colaisaco, Ecuador, collected on a yellow flowering leguminous herb, Jan. 7, 1911, by Mr. C. H. Townsend.

*Type*, a male from Colombia, in my collection. *Paratype* from Ecuador in National Museum.

#### 43. *Leptobyrsa ardua* sp. nov.

Hood twice as long as high, strongly projecting forwards, not as highly elevated as in *L. decora* and *L. medocina*. Head, save the sides, concealed by the hood, with five very slender, long spines, clothed with long, projecting hairs; first segment a little thicker and twice the length of the third; third segment slightly curved, about three and a half times the length of the fourth. Rostrum reaching to the metasternum. Paranota broad, mostly biseriate, triseriate at the anterior margin, the areolæ large, shaped as in *L. medocina*. Carinæ strongly foliaceous; lateral carinæ parallel, arch-like, composed of three large cells; median carina highest a little in front of the middle, uniseriate. Wings much reduced. Elytra broad, the areolæ large, the tumid elevations similar in form, but larger than in *L. medocina* and *L. decora*; costal area mostly triseriate, quadriseriate at the widest part, the areolæ large. Margins of paranota and elytra (here and there an extra submarginal row) armed with slender, not very long spines. The nervures with a few erect spines. Legs moderately hairy. Color quite similar to *medocina*.

Length 5 mm.; width 2.9 mm.

Akin to *L. decora* and *L. medocina*, but separated at once by the much longer and less elevated hood and the costal area which contains four rows of areolæ at its widest part.

Two specimens from Brazil. *Type*, male from Province of Minas Geraes, Brazil (alt. 1100 meters), collected by E. R. Wagner, and in my collection. The pronotum above and on the sides is moderately clothed with rather long yellowish white hair. There are also a few scattered, erect spines on the nervures of the elytra, hood, and paranota. In the *paratype* from San Paulo, the costal area of elytra is composed of three rows of areolæ on one side (at widest part) and of four rows on the other side.

#### Genus DICYSTA Champion (1897).

*Dicysta* CHAMPION, Biol. Centr.-Amer., Rhynch., II, 1897, p. 5; DRAKE, Annals Carnegie Museum, XIII, 1922, pp. 269-273.

Haplotype: *Dicysta vitrea* CHAMPION.

#### 44. *Dicysta sagillata* sp. nov.

Head, except eyes, concealed from above by the hood, with two short, converging spines in front. Antennæ long and slender, the first segment two and one-half times the length of the second, the third a little curved, slightly more than twice the length of the fourth. Paranota moderately reflexed, moderately long and broad, the outer margin rounded, with three rows of areolæ at its widest part, the areolæ moderately large. Hood rather large, projecting a little in front

of the head. Median carina strongly inflated at the posterior end, the posterior margin of the latter rounded and the anterior margin slightly concave; the non-inflated portion of the median carina composed of a single large cell, the dorsal nervure of this cell runs obliquely downward from the summit of the posterior inflated portion and joins the median nervure of the hood a little above its base. Elytra abruptly widened at the base and then gradually widening posteriorly, the tips divaricating and not as broadly rounded as in *D. braziliensis*; tumid elevations quite large and long, the outer margin highly elevated and rounded, inner margin broadly compressed at the middle and sloping obliquely towards the median line; costal area broad, mostly triseriate, quadriseriate at its widest part, the areolæ large. The margins of the paranota and elytra armed with a double row of almost obsolete spines. Wings much longer than the abdomen.

General color testaceous; the nervures of the hood, inflated portion of median carina, and posterior portion of the tumid elevation fuscous, the areolæ lightly infuscated; the areolæ of the rest of the elytra, paranota, and the large cell of non-inflated portion of median carina, hyaline. Body beneath black, the rostral laminæ and sides of thorax dark testaceous. Legs testaceous, the tarsi fuscous. Antennæ testaceous, the distal portion of the fourth segment fuscous.

Length 3.5 mm.; width 2 mm.

Very much like *D. braziliensis* Drake in general appearance, but easily distinguished from it by the more abruptly widened elytra at the base, the large tumid elevations of the elytra and shorter, broader and more rounded paranota.

Three specimens, Porto Bello, Panama, March 12, 1911, collected by Dr. E. A. Schwarz. *Type*, a female, No. 25,366 U. S. Nat. Mus. *Paratypes* (somewhat damaged) in National Museum and my collection. This species belongs to the group of *Dicysta* containing *D. vitrea* Champion, *D. hollandi* Drake and *D. braziliensis* Drake; it is most closely related to the latter species, but readily separated from it by characters given above.

## EXPLANATION OF PLATE XXXIX.

- FIG. 1. *Atheas elongata* sp. nov. (p. 367).  
FIG. 2. *Gelchossa albocosta* sp. nov. (p. 372).  
FIG. 3. *Corycera comptula* gen. et sp. nov. (p. 369).  
FIG. 4. *Leptopharsa longula* sp. nov. (p. 371).  
FIG. 5. *Neotingis hollandi* gen. et sp. nov. (p. 367).  
FIG. 6. *Amblystira silvicola* sp. nov. (p. 361).  
FIG. 7. *Amblystira marginata* sp. nov. (p. 362).  
FIG. 8. *Tigava jansoni* sp. nov. (p. 364).  
FIG. 9. *Tigava notabilis* sp. nov. (p. 364).  
FIG. 10. *Acysta braziliensis uniseriata* var. nov. (p. 368).  
FIG. 11. *Tingis americana* sp. nov. (p. 366).  
FIG. 12. *Monanthia figurata* sp. nov. (p. 354).  
FIG. 13. *Coleopterodes liliputiana* Signoret (p. 353).

